



Consider a hamburger. It contains meat that was once a part of a cow. Where did the cow get the energy to make the muscle that became meat? A cow must take in food, such as plants, that already contain chemical energy. So where do plants get this chemical energy?

The sun through the process of photosynthesis!



Photosynthesis is the process by which plants are able to capture light energy and use that energy to make glucose. In this process sunlight provides the energy needed by chlorophyll to change molecules of carbon dioxide and water into glucose (a type of sugar). Oxygen is also released in this reaction. The reaction looks something like this:

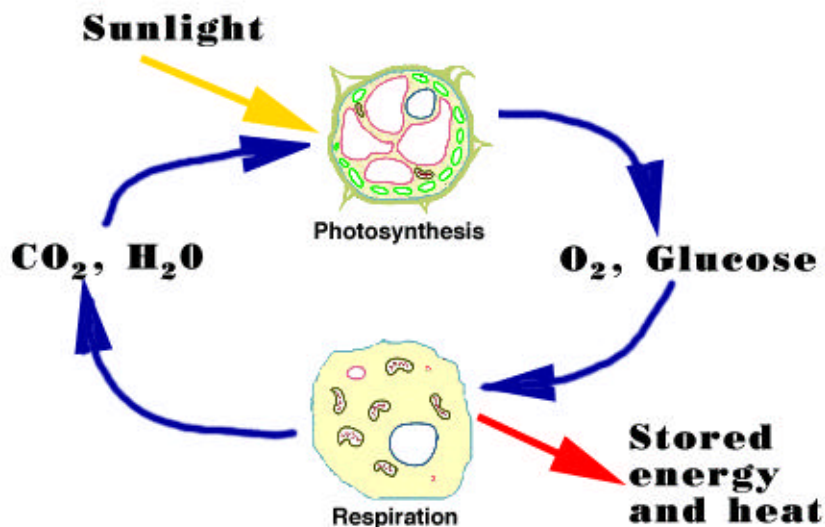


When the cow eats the plant, the energy stored in the plant is transferred to the cow. The cow uses the energy to make muscle (beef). This energy is then transferred to you as you eat your hamburger.

Cows and other animals like us need energy which is obtained from sugars. We also need oxygen for life processes. This process of obtaining energy from sugar is known as **respiration**. Respiration occurs in the mitochondria of cells.



Respiration is almost the exact opposite reaction to photosynthesis. These two reactions work together to maintain a biological balance on earth.





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